

## ABSTRACT OF THE DISCLOSURE

A ceramic honeycomb structure comprising a ceramic honeycomb body comprising axial grooves on its periphery and cell walls constituting a larger number of flow paths inside the grooves, and a peripheral wall layer 5 covering the grooves, wherein there are stress release portions at least partially in the peripheral wall layer and/or between the peripheral wall layer and the grooves. The thermal expansion coefficient of the peripheral wall layer is preferably smaller than those of the cell walls in a radial direction. The peripheral wall layer is preferably formed on the ceramic honeycomb 10 body formed by removing a peripheral wall from a ceramic green body, before or after firing the ceramic honeycomb body.